



UNITED STATES PATENT AND TRADEMARK OFFICE

[Signature]
UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|--|-------------|----------------------|---------------------|------------------|
| 09/925,889 | 08/06/2001 | Rasekh Rifaat | A0312/7412 WRM/IB | 6192 |
| 23628 | 7590 | 10/17/2005 | EXAMINER | |
| WOLF GREENFIELD & SACKS, PC FEDERAL RESERVE PLAZA 600 ATLANTIC AVENUE BOSTON, MA 02210-2211 | | | BURD, KEVIN MICHAEL | |
| | | ART UNIT | PAPER NUMBER | 2631 |

DATE MAILED: 10/17/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | | |
|------------------------------|------------------------|---------------------|--|
| Office Action Summary | Application No. | Applicant(s) | |
| | 09/925,889 | RIFAAT ET AL. | |
| | Examiner | Art Unit | |
| | Kevin M. Burd | 2631 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 01 August 2005.
- 2a) This action is FINAL. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-14 and 16-30 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) Claim(s) _____ is/are allowed.
- 6) Claim(s) 1-14, 16-30 is/are rejected.
- 7) Claim(s) _____ is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____ | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| | 6) <input type="checkbox"/> Other: _____ |

1. This office action, in response to the remarks filed 8/1/2005, is a final office action.

Response to Arguments

2. Applicant's arguments regarding claims 1-14 and 16-30 filed 8/1/2005 have been fully considered but they are not persuasive. Applicant states Dent does not disclose the operation of claim 1 happen in response to a single instruction. However, Dent discloses the operation of the rake receiver of figure 8 begins in response to an input signal. The input signal is the single instruction. Applicant states Dent does not disclose the operation of claim 1 be executed in a single clock cycle of a digital signal processor. However, Dent discloses the multiplied outputs are combined and a complex signal is developed for each coded information symbol period in column 15, lines 26-34. One symbol period equals one symbol clock cycle. For these reasons and the reasons stated in the previous office action, the rejections of the claims are maintained.

Applicant states Ozluturk does not disclose the operation of claims 27 and 28 happens in response to a single instruction. The input signal is the single instruction in the rejection and the subsequent steps of the method are executed in response to this instruction. Each multiplication product is input into an accumulator 109, where it is added to a previous product and latched out after the next symbol clock cycle (column 4, lines 59-67). Claims 27-30 claim only the complex multiplication is carried out in a single clock cycle. The rejection of these claims is maintained.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1-14 and 16-30 are rejected under 35 U.S.C. 102(e) as being anticipated by Dent (US 6,680,928).

Regarding claims 1, 8, 16 and 27-30, Dent discloses a method of processing received signal values in a signal processor (figures 8 and 9). A digital spread spectrum signal is input to a rake receiver in figure 8. The signal has a plurality of signal values and the signal values are input to complex mixers 146. Each multiplication product is input into an accumulator 148, where it is added to other channels. Despread occurs in block 112. The multiplied outputs are combined and a complex signal is developed for each coded information symbol period (column 15, lines 26-34).

Regarding claims 2 and 9, the output of the combination is the despread product.

Regarding claims 3, 17 and 10, the PN code used for despreading is input to the mixers as shown in figure 9. This code can be divided by a factor of four to yield one-fourth the amplitude as can any despread code.

Regarding claims 4, 11 and 18, the PN code used for despreadsing the signal as shown in figure 9, will comprise a plurality of bits. The signal is a complex signal and will comprise at least one real and at least one imaginary bit.

Regarding claims 5, 12 and 19, the received signal comprises values of "1" and "-1" (column 6, lines 37-43).

Regarding claims 6, 13 and 20, the communication system discloses one or more coded information bits (column 11, lines 30-41).

Regarding claims 7, 14 and 21, the received signal comprises values of "1" and "-1" (column 6, lines 37-43).

Regarding claims 22-25, Dent discloses a method of processing received signal values in a signal processor (figures 8 and 9). A digital spread spectrum signal is input to a rake receiver in figure 8. The signal has a plurality of signal values and the signal values are input to complex mixers 146. Each multiplication product is input into an accumulator 148, where it is added to other channels. Despreadsing occurs in block 112. The multiplied outputs are combined and a complex signal is developed for each coded information symbol period (column 15, lines 26-34). The communication system discloses one or more coded information bits (column 11, lines 30-41). The received signal comprises values of "1" and "-1" (column 6, lines 37-43).

Regarding claim 26, the data communication system is a CDMA system (column 2, lines 52-54).

4. Claims 27-30 are rejected under 35 U.S.C. 102(e) as being anticipated by Ozluturk et al (US 6,366,607).

Regarding claim 27, Ozluturk discloses a method of processing received signal values in a signal processor. A digital spread spectrum signal is input to a rake receiver 101 in figure 5. The signal has a plurality of signal values and the signal values are input to complex mixers 107. The PN code input to the mixers will comprise a plurality of bits. Each multiplication product is input into an accumulator 109, where it is added to a previous product and latched out after the next symbol clock cycle (column 4, lines 59-67).

Regarding claims 28-30, Ozluturk discloses a method of processing received signal values in a signal processor. A digital spread spectrum signal is input to a rake receiver 101 in figure 5. The signal has a plurality of signal values and the signal values are input to complex mixers 107. The PN code input to the mixers will comprise a plurality of bits. Each multiplication product is input into an accumulator 109, where it is added to a previous product and latched out after the next symbol clock cycle (column 4, lines 59-67) thereby despreading the signal. A plurality of code segments is provided to the receiver to despread the received signal values as shown in figure 5.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kevin M. Burd whose telephone number is (571) 272-3008. The examiner can normally be reached on Monday - Friday 9 am - 5 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mohammad Ghayour can be reached on (571) 272-3021. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Kevin M. Burd
10/15/2005

Kevin M. Burd
KEVIN BURD
PRIMARY EXAMINER